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PROCEEDINGS OF IMF, IBRD SESSIONS REVIEWED

Moscow DEN'GI I KREDIT in Russian No 12, Dec 82 pp 72-76

[Article by Ye.D. Zolotarenko: "At the Regular Session of the International Monetary Fund"]

[Text] The 37th session of the IMF and the International Bank for Reconstruction and Development took place in Toronto, Canada, from 6 to 9 September 1982. As usual, the agenda for the session and the preceding meetings of the "Group of 10" (the largest capitalist states), the "Group of 24" (the developing nations, which represent the interests of all the new states) and the Interim Committee of the IMF, which consists of representatives both of the industrially developed and the developing states which are members of the Fund, included the most serious problems pertaining to the world economy and the monetary system: the crisis in the economy and prospects for its recovery; financial problems of the IBRD and the International Development Association (IDA), and the stiffening of the credit policy of those institutions; the intensifying instability of the modern currency system (attempts by the central banks to eliminate the drastic fluctuations in currency rates and prospects for a new issue of Special Drawing Rights (SDR)). The focus of the discussions, however, was the problem of the developing nations' solvency, which came to the fore as a result of Mexico's announcement 1 month before the beginning of the IMF session of a moratorium¹ with respect to payment of its foreign debt.

And now a few words about the situation existing in the developing nations, particularly Mexico, when the IMF session opened.

Mexico, one of the developing nations richest in resources, had frequently obtained large loans on the international money market, assuming that it could service its foreign debt (interest and current liquidation payments) with revenues from exports, primarily oil exports. Because of the drawn-out economic crisis in the capitalist world in recent years, however, world oil prices steadily fell, and it became more and more difficult to obtain new medium- and long-term loans (the banks began curtailing further loans, especially to those deeply in debt), and the loans themselves became more costly (interest rates in dollars have steadily risen in recent years). Mexico's forced switch to short-term loans caused its current payment volume to increase drastically--to 20 billion dollars in 1982 (with a total indebtedness of 85 billion dollars)--and the nation was forced to request a deferment of 90 days (during that time it expected to obtain certain amounts from the IMF and the Bank for International Settlements, which would temporarily ease its problem).

Argentina is in a similar situation (with a debt totalling 40 billion dollars, it must pay 12 billion dollars by the end of the year), and a number of other countries may find themselves in the same situation, among which Brazil is the most deeply in debt (63 billion dollars).

The total amount which the developing nations must pay the banks in 1982 to service their foreign debt amounts to around 240 billion dollars,² including short-term indebtedness (loans for up to 1 year) and more than 100 billion dollars³ in addition to that. This last figure amounts to around 50% of the total annual foreign exchange revenues for the debtor-nations.

The main cause of the current crisis in the foreign indebtedness situation of the developing nations was a prolonged slump in production in the industrial capitalist nations, which led to stagnation in world trade. During the first half of this year its total value remained at the 1981 level, which was itself the worst in the past 25 years: for the first time since 1958 world trade fell last year, by 1%.

The developing nations found themselves in the most difficult situation. Their export proceeds fell both due to the drop in prices for raw materials caused by the economic stagnation and as a result of direct curtailment of purchases in those nations. The extent of the deterioration in the foreign trade proceeds of the developing nations can be assessed from the drop in world prices for raw materials. They fell by 14.5% in 1981 and by another 8% during the first half of 1982 (these figures do not include oil prices). The drop in prices was even greater for certain goods: 41% for sugar, 23% for rubber, 25% for tropical lumber and so forth.⁴

The influence of the economic crisis on the developing nations' trade was also manifested in a significant expansion of protectionist barriers by a number of developed states. The borrowing nations' limited access to their main foreign markets drastically reduced the capabilities of those countries for meeting their payment obligations.

The extent of Mexico's payment crisis especially graphically underscored the main weakness of the international credit structure: 70% of the foreign indebtedness of the developing nations, which exceeds 500 billion dollars,⁵ is owed to commercial banks. State funds play a relatively insignificant role in the resolution of the "third world's" financial problems. The Fund itself has an even smaller role and smaller capabilities in these matters. Since private loans in the enormous amounts mentioned were extended in the pursuit of super-profits over the medium and long term and have been refinanced by the banks primarily out of short-term deposits, the suspension of payments on the debt by certain nations could produce a chain reaction of deposit withdrawals and mass bankruptcy on the part of the capitalist banks.

The facts presented above give a most general concept of the scope of the greatest threat. Discussions at the IMF session, however, demonstrated that the capitalist nations, which are to blame for the difficulties of the developing nations, were not prepared to engage in constructive dialog on this problem. The opinions expressed at the session differed, and only ways to approach the discussion were outlined, which indicates the serious difficulties and conflicts which will accompany it.

During the discussion specifically of the extent of the central banks' responsibility for assuring the stability of the international banking system, should certain of the debtor-countries stop making payments on their debt, for example, representatives of the capitalist nations spoke with great caution. The adoption of legal norms for the compilation of consolidated balances (that is, the inclusion in a bank's balance of all

the operations conducted by its oversea branches) was mentioned as one of the practical steps which the central banks could take in this direction. There was talk about the expediency of recommending that the commercial banks curtail the issuing of new loans to the debtor-nations, while assuring that those nations obtain funds adequate to make current payments on their foreign debt. Mention was made of the need to perfect the information compiled on international indebtedness by the creditor-nations in cooperation with the IMF, the Bank for International Settlements in Basel, and others. No specific steps were outlined at the session, however.

One's attention is struck by the fact that the most important question--whether the central banks should provide financial aid to private banks which have encountered difficulties in the international market, acting as the "creditor of last resort" (similar to that done within the framework of the national credit systems)--was not brought up at the session. FRG Bundesbank President Pohl addressed this question at a press conference held following the IMF session, apparently expressing the general opinion of leaders of the finance departments of the developed capitalist nations. He said the following: "We cannot expect the central banks to act as a fire-fighting team in all cases in which arson has been committed, and frequently with malice.... They cannot redeem loans either from the banks or from the debtors."⁶ This statement rejects the most radical ways to solve the problem using state funds.

Discussions on the problem of the developing nations' solvency took place at the IMF session against a backdrop of discussion of the economic situation in the capitalist nations themselves, which has to a great extent been the cause of the developing nations' disastrous situation.

Responsibility for the situation of the new states and that of the entire capitalist economy, as many of the participants repeatedly stated at the session, lies with government circles of the leading capitalist powers, first and foremost the United States, the economic policy of which has resulted in an unprecedented growth of interest rates, and this has had a depressive effect upon the world economy and the monetary system. Former British minister of finance Healy stated just before the session that precisely this policy was the cause of the world economic crisis, that it had brought the international money market to the brink of disaster.⁷

Representatives of Western Europe and Canada demanded at the IMF session, as they had previously done at a meeting of leaders of the seven largest capitalist nations in Versailles, that the USA ease its monetary policy to bring about a lowering of interest rates. Under pressure from the USA, however, the usual vague statement was adopted, which, on the one hand, speaks of the desirability of a certain loosening of money-and-credit policy in the industrialized capitalist nations to ease the cost of credit, to expand the volume of credit and improve production and employment on this basis. On the other hand, this theme is accompanied in the communique issued by the Interim Committee of the IMF by the acknowledgement that rates of inflation remain unacceptably high in many countries and that only their consistent reduction can bring about expanded production. In the economic policy of the capitalist governments priority is thus being given to the struggle against inflation over steps to increase employment. In any case this formulation of the problem cannot serve as a means of forcing the United States to change its monetary policy.

Under these circumstances no hope remains for improvement of the world economic situation within the near future, including the economic situation of the developing nations.

The session also discussed the role of the International Monetary Fund with respect to regulating the problem of the developing nations' indebtedness to the commercial banks. At the present time the IMF actually has neither adequate financial resources nor the legal authority for this. Under the present normative regulations its functions are limited to the extending of short-term loans (from 3 months up to 3 years) to cover temporary payment shortages for current operations and medium-term (up to 8-10 years) loans to improve payment balances by developing the export branches. The special-purpose nature of such loans is based on the presumption that they will not be used for the payment of debts to private banks.

This principle governing the IMF's credit functioning under present circumstances has become an obstacle to involvement of the Fund for resolving the problem of the insolvency of that organization's member-nations. While generally advocating a stepped-up role for the IMF in the resolution of international currency and credit problems, various groups of nations pursued different goals and therefore differed in their opinions as to how this can be achieved.

The United States did practically everything possible to reduce to a minimum the beneficial features and availability of IMF loans to the needy states. This position is an integral part of the strategy worked out by the Reagan Administration with respect to the "third world." It consists in extending financial aid only to those nations which are prepared to make reciprocal political and economic concessions to the creditors.

Unlike the USA, many developed capitalist nations advocated more flexible IMF practices with respect to extending loans. The FRG's representative, who had ordinarily supported the U.S. position at previous Fund sessions, stated that the terms for IMF loans should not consist of a set of dogmatic rules: they should be adapted to the specific circumstances of the nation receiving the loan. Holland's delegate suggested expanding the Fund's extension of loans for financing programs to be implemented within a year, since the terms for so-called "expanded availability" loans for implementing comprehensive economic programs (150% of the quota annually for a period of 3 years) proved to be too burdensome for many nations. The IMF halted the extension of such loans to ten of 34 loan recipients due to failure to fulfill the terms agreed upon.

The most obvious way to supplement the IMF's financial resources would be to directly increase its capital through additional contributions by the participating nations. The 7th and last increase in IMF capital from 39 to 60 billion SDR was effected in September of 1980, and it was planned to take until 1985 to complete the 8th review. At the session in Toronto the developing nations asked that this review be accelerated and that the amount of capital be doubled to 120 billion SDR (around 130 billion dollars).

The inadequacy of available IMF resources has to do with the fact that a considerable portion of these resources consists of funds in the form of currencies which cannot be used in the Fund's credit operations (because of currency restrictions or a weak economy on the part of the issuing nation). After subtracting from the total amount

of capital these currencies (13 billion SDR) as well as liabilities in the form of IMF loans (23 billion SDR) and "reserve items," the actual means at the Fund's disposal are reduced to 11 billion SDR. This amount is only half the loan needs of Mexico alone for the current year.

The developing nations were supported by a number of developed capitalist states, which are interested in having the problem of insolvency resolved on a multilateral basis (France, Italy, Belgium, Canada, Austria, New Zealand and others). The position taken by Japan, the FRG and the OPEC nations differed somewhat: they were prepared to support any proposal which would call for a relative increase in their quotas in the capital and a corresponding increase in their role and authority in the affairs of the IMF and the IBRD. The other side of this arrangement would be that certain other nations would have to agree to reduce their relative quotas.

Precisely this fear was the main reason why the United States advocated a moderate increase in capital (no more than 25%) within periods designated in advance. In this matter the USA was in opposition to practically all the Fund's other member-nations. Even Great Britain agreed to an increase of 50%. Since the USA has the power of the veto, a decision on reviewing IMF capital and the quotas of its members was postponed until the meeting of the IMF's Interim Committee, which is scheduled for April of 1983.

The USA presented a plan for creating a special fund to aid the debtor-nations experiencing extreme financial difficulties, offering it as an alternative to the plans for increasing IMF capital. This American proposal was rightly assessed as a political maneuver to permit the United States to postpone a decision on the main question of reviewing the quotas. The approximate size of such a special fund might, in the opinion of the USA, amount to 25 billion dollars.

Session delegates received this proposal without enthusiasm and agreed to discuss a detailed plan for a special fund at the meeting of the Interim Committee in April of 1983, on the condition that the creation of the fund would not supplant the question of increasing IMF capital.

The financial problems of the International Bank for Reconstruction and Development and its branch, the International Development Association, were discussed at the session in only a formal manner, without linking them directly to the current payment difficulties of the developing nations, taking into account the specific objectives of those organizations--the financing of specific economic development projects. The nature of their discussion and the positions occupied by the individual nations, however, were a logical extension of that tactic which those nations had worked out for themselves during the discussion of the problem of the developing nations' indebtedness.

First of all the session noted the growing disparity between the developing nations' needs for the credit resources of the IBRD and the IDA and the limited real financial possibilities of those organizations. Under pressure from the United States, which dominates in the IBRD-IDA leadership (specifically, the president is always an American: currently Clausen, former president of the largest commercial bank in the USA, Bank of America), the IBRD-IDA took a course to tighten its credit policy by limiting the number of nations enjoying the right to obtain loans and by increasing the interest rates charged.

Under this policy, which was given the name "gradualization" (that is, the gradual removal of nations from the list of the Bank's loan recipients when they reach a national per capita income level of \$2,650.00 at 1980 prices, and removal of nations with an income level of \$730.00 from the group of those eligible for loans from the International Development Association), around 10 nations could be removed from the list of potential recipients of loans within the near future. In addition, the interest rate on IBRD loans has increased from 9.3% to 11.6% in the past 2 years, despite the fact that the average cost of the resources drawn upon by the Bank itself was considerably lower. In June 1982, according to Clausen, loan funds cost the Bank 8.2% annually, and taking into account its own funds on which it does not pay interest, the Bank's expenses did not exceed 6.5% of the total financial resources.

The financial problems of the IBRD and the IDA naturally differ, since the IBRD functions on a completely self-paying basis, while the IDA requires constant subsidizing. Under the IBRD Charter the total amount of the Bank's loans is not to exceed the sum of the capital committed to it and its accumulated reserves. At the present time this amounts to 46 billion dollars. Taking the outstanding loans (29 billion dollars) into account, the reserves for new loans is limited to 17 billion dollars.

It is planned to implement a decision adopted in 1980 to increase IBRD capital by 40 billion dollars no earlier than 1986, but the Bank's obligations with respect to credit agreements concluded but not utilized already amount to around 25 billion. In 1981 the developed capitalist nations rejected another proposal prepared by a specially created international committee represented by W. Brandt, which would have made it possible to significantly increase the total amount of loans extended, specifically by changing the authorized ratio of loan volume to capital from 1:1 to 2:1. As a result the IBRD's possibilities for helping to overcome the financial difficulties of the developing nations have practically been eliminated. Its credit programs call for the freezing of the total of new loans at a level of 10.5 billion dollars per year for the next 4 years.

Disagreement on the matter of helping the developing nations came out most sharply during the discussion of the IDA's future work. As a result of reduced allocations by the United States this organization, which extends loans on the most beneficial terms to the poorest nations, found itself faced with the need to reduce its loan programs for the next 2 years.

For the USA this decision was the first practical step in the realization of the Reagan Administration's "new philosophy," as expressed in the slogan "No free breakfasts." Actually it is a cover for the foreign political doctrine in accordance with which the USA intends to provide financial aid to the developing nations on a bilateral and not a multilateral basis, using it as a weapon for applying political pressure. The U.S. share in the International Development Association's allocations has been reduced from 42% to 27% in recent years.

Unlike the USA the other developed nations took a somewhat more constructive position, agreeing to contribute an additional 2 billion dollars. This will make it possible to keep the total amount of loans extended on a privileged basis in 1983-1984 at the present level of 3.5 billion dollars annually. As a result the United States has been left totally isolated in this matter. Nonetheless the difficulties which the International Development Association is experiencing provided justification for its leadership to decide that beginning in 1985 loans will no longer be interest-free but will be extended at privileged rates (compared with market rates).

The exceptional urgency of problems pertaining to the development nations' insolvency somewhat reduced the intensity of the debate surrounding another current subject, the instability of capitalist currency values. Many nations are seriously concerned about the fact that not only have the frequency and the extent of rate fluctuations increased in recent years, but the role of speculative elements in the money markets has also grown. As a result currency rates have begun changing in an illogical manner, exerting a severely negative effect upon international trade, its balance and volume. During the year July 1980 to July 1981 the value of the dollar increased 48% against the mark, 36% against the Swiss franc and 33% against the pound sterling. By the end of 1981 the value of the dollar had fallen by 6-16% against the above currencies but had risen again by 11-20% by the end of September 1982.

The inflated value of the dollar resulting from the American policy of high interest rates is the cause of many additional difficulties now being experienced by other nations. First of all, it is increasing the cost of importing raw materials (the prices of which are ordinarily given in dollars) to the West European nations and Japan, increasing inflation in those nations. Furthermore, the economies of the USA's partner-nations are suffering from an outflow of capital into American banks, which pay higher interest. This limits possibilities for internal industrial investments in those nations and damages their balance of payments. Finally, in order to prevent an especially significant drop in the value of their currencies, the USA's partners have been forced to maintain high interest rates to the detriment of their national economies, which are in worse condition than the American economy.

During international conferences, including the IMF's 1981 session and "summit meetings" in Ottawa and Versailles, these nations have therefore persistently and unanimously called upon the USA to cooperate with them to restrain the unjustifiable growth of the dollar's value either by reducing U.S. interest rates or by intervening in the money markets. As we know, the United States did neither. It justified its inaction in the area of intervention by claiming that such actions are ineffective. As a result, the problem of stabilizing the values of capitalist currencies has not been resolved, despite enormous outlays to prop them up by the partners of the USA (100 billion dollars in 1980, 95 billion in 1981, 48 billion in the first half of 1982).

At a conference in Versailles in June of 1981 Reagan agreed to study the matter of stabilizing the money markets in exchange for the European nations' agreement to stiffen their credit policy with respect to the Soviet Union. The study itself was to have been completed by the time of the IMF session in Toronto. Three months of work did not bring the anticipated results, however, due to obstruction on the part of the USA. According to Italy's Minister of Finance Andreotti, the USA has attempted to reduce the matter to a discussion of theoretical issues, whereas the European nations see their task as one of defining political obligations in the area of currency operations.

The IMF session in Toronto therefore did nothing more than extend the period for completing the study of currency intervention to February of 1983, proposing that the results be discussed at the April session of the Interim Committee.

The discussion of another question pertaining to the revamping of the currency system--increasing the role of SDR (international account and reserve assets)--was equally unproductive.

The developing nations, as they always have, proposed that the issue of SDR be continued, coordinating it with the rendering of assistance to the poorest states. (In all there have been only two issues of SDR: the first, totalling 9.3 billion units, in 1970-1972, and the second in the amount of 12 billion units, in 1979-1981.) Austria was the only industrialized capitalized nation to support this proposal. At the same time it stressed the need to step up the work of developing the functions of the SDR, in order to turn them into a reserve and accounting means acceptable to all the nations.

Austria's representative pointed out the harmful nature of the practice of predominantly using national currencies for international transactions, as a result of which the "diseases" suffered by the nations whose currencies are used as reserve currencies are transmitted to the international currency system. This basic assessment of the current currency system did not meet with proper response at the session, although the opinion is becoming more and more widespread behind the scenes that drastic changes must be made in the "international chaos" created by the Jamaica Agreements.⁸ Specifically, at a conference of British Commonwealth nations held just prior to the IMF session, it was suggested that a new international conference similar to the Bretton Woods Conference be convened for purposes of reviewing the status of existing international financial institutions.

A salient feature of the session was a deepening of the split between the positions occupied by the USA and those held by the other IMF members, including America's NATO allies, with respect to the main international financial problems. Despite the drastically deteriorated state of foreign indebtedness on the part of the developing nations and the real danger of bankruptcy on the part of banks and individual nations, the USA actually opposed all of the steps recommended for remedying this problem. This U.S. position evoked critical comments in political and business circles in the West.

FOOTNOTES

1. Moratorium--a period of delay in the fulfillment of obligations.
2. EUROMONEY, London, August 1982, p 26.
3. Ibid., pp 23, 26 (summation).
4. The World Bank Annual Report, 1982, pp 27-29.
5. IMF Survey, 20 September 1982, p 302.
6. HANDELSBLATT, 10-11 September 1982, p 7.
7. FINANCIAL TIMES, 4 September 1982.
8. Decisions adopted at a meeting of the IMF's Interim Committee in Jamaica in January of 1976, which officially nullified the principles of the Bretton Woods Currency System (gold parities and fixed currency rates).

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USSR WORLD TRADE

EXCHANGE RATES FOR 1 FEB 1983 PUBLISHED

Moscow EKONOMICHESKAYA GAZETA in Russian No 6, Feb 83 p 22

[List of exchange rates and commentary by Ye. Zolotarenko]

[Text] Bulletin of Foreign Currency Exchange Rates as of 1 February 1983

Currency	Rate (in rubles)
Australian dollar (100)	70.22
Austrian shilling (100)	4.22
Albanian lek (100)	18.00
Dinar of Algerian People's Democratic Republic (100)	15.43
British pound sterling (100)	111.00
Argentine peso (10,000)	0.13
Afghan afghani (100)	1.42
Belgian franc (100)	1.51
Burmese kyat (100)	9.41
Bulgarian lev (100)	76.92
Hungarian forint (100)	7.67
Dong of the Socialist Republic of Vietnam (100)	30.60
Ghanaian cedi (100)	26.00
Guinean syli (100)	3.13
GDR mark (100)	40.50
FRG deutsche mark (100)	29.63
Dutch guilder (100)	26.98
Greek drachma (100)	0.85
Danish krone (100)	8.40
Egyptian pound (1)	1.05
Indian rupee (100)	7.18
Indonesian rupiah (1,000)	1.03
Iraqi dinar (1)	2.32
Iranian rial (100)	0.86
Islandic krona (100)	3.88
Spanish peseta (100)	0.56
Italian lira (10,000)	5.14
Dinar of the People's Democratic Republic of Yemen (1)	2.09
Rial of the Yemen Arab Republic (100)	16.09

Currency	Rate (in rubles)
Canadian dollar (100)	58.27
PRC yuan (100)	37.35
DPRK won (100)	74.93
Cuban peso (1)	0.90
Kuwaiti dinar (1)	2.47
Lebanese pound (100)	18.75
Libyan dinar (1)	2.48
Malaysian ringgit (100)	31.69
Malian franc (1,000)	1.04
Moroccan dirham (100)	11.59
Mexican peso (100)	0.49
Mongolian tugrik (100)	22.50
Nepalese rupee (100)	5.50
New Zealand dollar (100)	52.81
Norwegian krone (100)	10.07
Pakistani rupee (100)	5.51
Polish zloty (100)	22.50
Portuguese escudo (100)	0.80
Romanian leu (100)	15.00
Singapore dollar (100)	34.77
Syrian pound (100)	18.73
Somali shilling (100)	4.28
U.S. dollar (100)	72.00
Sudanese pound (1)	0.56
Tunesian dinar (1)	1.18
Turkish lira (100)	0.38
Uruguayan peso (100)	2.77
Finnish mark (100)	13.44
French franc (100)	10.43
Czechoslovak koruna (100)	12.50
Swedish krona (100)	9.70
Swiss franc (100)	36.20
Sri Lankan rupee (100)	3.35
Ethiopian birr (100)	34.70
Yugoslav dinar (100)	1.07
Japanese yen (1,000)	3.04

Our Commentary

Gosbank has changed the rate of 15 currencies effective 1 February, including the U.S. dollar, the Swiss franc, the Norwegian krone, the Swedish krona, the Yugoslav dinar and the currencies of a number of developing nations. In addition, the exchange rates for 10 of the main developed capitalist nations were changed on 27 January. The rate for the U.S. dollar and for the Swiss franc was adjusted twice. All of these changes are reflected in the above list.

During the last 10 days of January there was great instability of currency rates, especially that of the U.S. dollar, a result of instability of economic growth and uncertainty as to prospects for the American economy and finances. Official estimates recently published indicate that the U.S. budget deficit may reach 200 billion dollars, or 6-7% of the gross national product, in the next fiscal year. This has temporarily halted the drop in interest rates in the USA, and this has resulted in a certain increase in the value of the dollar.

The price of gold fluctuated during the last 10 days of January at an even higher level (compared with the beginning of the month)--between 485 and 495 dollars per ounce.

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USSR-CEMA TRADE

CEMA COOPERATION IN COMPUTERS, ATOMIC ENERGY, MEDICINE

Moscow MOSKVA in Russian No 9, Sep 82 pp 157-165

[Article by Yuriy Sinyakov: "Partners in Cooperation"]

[Text] On the subject of the links established within a large group of the socialist countries within the socialist community, it was stated at the party congress that "relationships between the states have customarily been called international. But it is only in our times, in the world of socialism, that they have truly become relationships between peoples."

The socialist community. A new, sociohistorical community of independent states possessing the same kind of social system--states whose cooperation is based on the principles of mutual aid and mutual advantage, on the harmonious combination of national and international interests, and finally, on agreed actions, trust and comradeship.

As was stated in the CPSU Central Committee decree "On the 60th Anniversary of the Formation of the USSR," the "socialist community embodies a new, socialist type of international relationships between sovereign and equal states..."

The relationships existing between the socialist countries cover many aspects of our political, ideological, cultural and economic life. We are talking today about economics, where the socialist community is identified as CEMA, an international organization that includes Bulgaria, Hungary, Vietnam, the GDR, Cuba, Mongolia, Poland, Romania, the Soviet Union and Czechoslovakia, which are all participating in the implementation of a comprehensive program of economic integration.

The national economies in these countries and the rates of their economic growth are so great that today they are the most dynamically developing group of countries in the world. They are consolidating their positions even more by combining their efforts, facilities and resources and actively trading with each other.

Our country exports oil, gas, coal and other kinds of materials in short supply to the socialist states. With the aid of Soviet equipment, in these states entire industrial sectors, such as ferrous metallurgy, machine building

and electronics, have been created. Year after year, from five-year plan to five-year plan, exports of goods offered on the world market by the socialist countries, grow.

International management experience is being gained, and each country makes its own contribution to the cause of the community. The agricultural cooperatives in Hungary are operating skillfully; energy and raw materials are saved in the GDR; interesting agrarian-industrial forms are found in Bulgaria. The partners learn from one another.

The International Assembly Line

During the Eighties the development of socialist integration is taking place in a complex economic situation. Making use of the latest scientific and technical achievements, the CEMA countries are switching from extensive production development to intensive development, and setting up their cooperation according to long-term, goal-oriented programs in the production of energy, fuel and raw materials, and developing transportation and machine building, agriculture and the food industry, and also in the output of consumer goods. Through their joint efforts they are creating "mechanisms" and "instruments" capable of reducing manual labor and freeing people from strenuous and repetitive operations.

The word "robot" was coined in the science fiction of Karel Capek. Today it expresses a completely real production force. Robots have been entrusted with the mechanical development, control and repair of equipment and other labor processes. Robots developed through the efforts of scientists and engineers in various countries on the basis of special multilateral agreements will carry out operations in assembly, welding and casting, and will "work" in transportation and in warehouses.

Practice has shown that socialist integration is able to handle the most complex technical tasks. It is precisely thanks to combined efforts within CEMA that an international assembly line now operates, producing what is required for automation, a unified, cheap, compact series of computers.

Circumstances developed in such a way that the first Soviet-produced computer appeared in 1951 in Kiev, 8 years after the one developed at the University of Pennsylvania in the United States in 1943, when Kiev had only just been liberated from the fascist forces of occupation. Despite this lag, caused by the consequences of World War II, in a relatively short time the CEMA countries passed along the road from computers with tubes to computers based on semiconductors. In the late Sixties, the Soviet Union, and also the GDR, Czechoslovakia and Hungary, succeeded in achieving high development rates in the computer equipment industry. They produced about 30 types of third-generation computers of various kinds.

The variety of the computers, however, created an unexpected obstacle: each computer needed its own software and set of spares, and, of course, individual servicing. In order to avoid filling the inventory with different kinds of computers, in 1969 Bulgaria, Hungary, the GDR, Poland, the Soviet Union and

Czechoslovakia (and later Cuba and Romania) decided to combine their efforts and develop a system of large, universal computers--the YeS series--based on a single design and set of software, and with compatible software and hardware.

After they had set up production of the large computers, the CEMA countries started development on a unified system of minicomputers with smaller storage capacities, less complex software, more compact and, of course, cheaper.

They set themselves the task of controlling machine tools and sections, and they facilitated the labor of workers in the services sphere. In trade, the task was to automate office and commercial operations, and in health, to diagnose diseases. The computers were also used in the educational system.

For the fabrication of the minicomputers, Bulgaria produces magnetic tapes and disks, Hungary manufactures display units and printers; main storage is produced in the GDR and Poland, and the development of the so-called intelligent display units and interface devices for controlled objects has taken place in the Soviet Union. With the aid of the USSR, production of processors has been set up in Cuba. Czechoslovakia is responsible for the production of flexible magnetic disks for storage, and Romania for software development.

Special attention has now been focused on production of the microprocessor, which during the Eighties will make it possible in the metalworking sectors of industry in the CEMA member countries alone to reduce manpower requirements by several million people.

Designers want to make this machine into an aid for the architect, the artist, the writer, the composer, and this, according to expert opinion, will bring about even greater social changes than the "era of television."

The large computers, minicomputers and microprocessors, the three families of computers produced on the basis of cooperation, are making available enormous reserves for improving labor productivity. From the partial application of computer technology, the CEMA countries are moving to mass introduction of the computer, not only in isolated industrial sectors but also in the national economy as a whole. At the same time, the international division of labor is deepening, moving from specialization by groups of technical facilities to specialization by assemblies and parts. This has become possible only within the framework of the planned economy--under socialism.

It is known that modern industry requires much greater capital investments than, for example, 30 or 50 years ago. Frequently the cost of projects equipped with the latest equipment is many times greater than the manpower, material and financial resources of a country, particularly countries such as, for example, Bulgaria, Hungary or Czechoslovakia, whose populations are only 9 million to 15 million. Could they by themselves organize the production of all the industrial products needed to make an income?

But through the international division of labor, this is possible. By having the socialist market at their disposal, the countries are able to concentrate

their own efforts only along those avenues of scientific and technical and production activities for whose development they already have favorable conditions. They buy goods in short supply from their partners. Thus, states within CEMA can develop their own production as part of the needs of the entire socialist community, with demand from a huge national economic complex with a population of more than 430 million. The organization of production on scales such as these is equivalent to expanding the market of, for example, Czechoslovakia, by a factor of almost 30, of Hungary by a factor of 40, and of Bulgaria by a factor of 50.

One feature of modern industry is that dozens and even hundreds of different plants and factories participate in the production of any one type of output.

For example, for the industrial production of space satellites the cooperation of more than 1,500 enterprises is required; and as a rule they would not all be available in one state. And it would not even be profitable to construct these enterprises or possible to import them more profitably. And the supplier countries produce the output more profitably by having large-series production, both for themselves and for their partners.

Large-series production is a reliable way of accelerating technical progress. Costs are reduced, quality is improved, and the countries gain experience more quickly... One classic example of CEMA specialization is the Hungarian "Ikarus" plant--one of the largest in the world--that produces buses. Each year more than 12,000 vehicles roll off its assembly line, 7,000 of which go to the USSR. An order this large enables the Budapest plant to constantly update the enterprise and build up its capacity.

The Soviet Union produces three-axel 6-ton trucks and also trucks rated at 27 tons and more, for all its CEMA partners. Czechoslovakia is the only country where 12-ton trucks with air-cooled engines are produced.

Until recently the GDR was producing maneuverable, comfortable streetcars that were in great demand both in that country and abroad. Streetcars just as good were also being made at the Czechoslovak "CKD-Tatra" Car Building Plant. Having discussed mutual advantage, specialists from the two countries concluded that there was no sense in making what were essentially the same streetcars. Now they will be produced in Czechoslovakia. And the GDR has switched to the manufacture of refrigerator cars for the railroads, and is now supplying them for all the fraternal countries, including Czechoslovakia.

Community countries have stopped producing some groups of output in favor of their partners. It has become more advantageous to acquire them through foreign trade channels. Bulgaria, for example, has stopped making hydraulic turbines, boring machines, spinning frames, tool carriers, motor scooters and motorcycles. Hungary no longer produces hydraulic turbines or dry-cargo freighters, excavators and other machines. The GDR does not manufacture tool carriers or tugs, Poland, boring machines, bulldozers, silage combines and wrist watches, Czechoslovakia certain kinds of mining equipment and domestic sewing machines.

The production of machinery for the paper industry is now concentrated mainly in Poland and the USSR. Only the GDR and Czechoslovakia still produce a small number of these machines. Two countries--Poland and the USSR--now produce about 95 percent of all excavators manufactured within CEMA. Romania and the USSR are the main suppliers of equipment for blast furnaces.

When it recommends a given country or enterprise to manufacture given output, CEMA takes into account the traditions of the country, the climate, the status of communications, and the availability of manpower and natural minerals.

For example, in 1956 the CEMA countries agreed that Bulgaria, which has reserves of lead, essential for the manufacture of batteries, would specialize in the production of lifting-and-transportation machines, storage-battery trucks.

The other materials needed for these kinds of articles were supplied by the CEMA partners. As a result, Bulgaria has become the main supplier of storage battery trucks in the socialist community, and the "Balkankar" association which it has set up has become known worldwide.

These machines now comprise 40 percent of Bulgaria's export program. France exports about the same number. And "Balkankar" played a major role in this, for before the war there was no such paragraph as "exports of machinery" in Bulgaria's foreign trade list. The country even had to purchase nails...

Integration is bringing greater advantages to the countries. Thus, during the last 10 years, 1970 through 1980, mutual supplies of specialized products increased by a factor of more than 70, reaching R25 billion. These are made up mainly of products from the machine-building industry in which there are more than 10,000 designated products.

The international division of labor eliminates duplication, saves efforts and funds, and--the main thing--leads to improved labor productivity.

The Relay-Race of the Peaceful Atom

Whoever has been to Hungary is well aware of the national dish (kholasle), a fragrant fish soup spiced with pepper. However, it was pointed out to me that they make the best "kholasle" in Paks.

The name Paks was given to the nuclear power station that is under construction near the Danube, 115 kilometers from Budapest. A small village in the past, Paks has now become a very beautiful city.

The further you get from the Danube, the higher the houses. First they are five-storey buildings, then 15 storeys. A 10-storey tower crowns the summit of the hill. Here they have their own polyclinic, restaurant, school, kindergarten, house of culture and the "ABC" department store with a wide range of goods. All this grew up before the construction workers started on the first power unit of the power station.

And here is a curious thing: the old-timers of Paks and the peasants have not changed their age-old occupations. The construction site has not seduced them away; they grow wheat and corn as before, gather in the apples and the grapes. But does their modern neighbor not disturb them?

At first, of course, there were all sorts of rumors, and even panic, but the engineers and the workers from the regional party committee carried out explanatory work with the people and gave lectures, and with the facts and figures proved the advantages of the peaceful atom.

And what is so remarkable about this construction site? The secretary of the regional party committee Istvan Rigoczi remarks primarily on the labor solidarity of the people. They also told the population about how the first power unit for the reactor had been supplied by Czechoslovakia, the cranes by the GDR, the biological protection system by Bulgaria and Poland, and the heat exchangers, turbines, pumps and much else by the USSR. Much of the equipment was made at Hungarian enterprises.

Until quite recently equipment for nuclear power stations was manufactured exclusively in the USSR. Now, demand for nuclear equipment has grown many times over, and atomic machine building has become a common business for the community.

"The international complex of atomic machine building created within the CEMA framework will have no equal in the world in terms of scale and technical level." These are the words of deputy chairman of the USSR Council of Ministers, A.K. Antonov, head of the international commission that is coordinating the joint efforts of those participating in a multilateral agreement in the field of producing equipment for nuclear power stations.

There is a diagram in the USSR Ministry of Power and Electrification on which a series-produced power unit for a nuclear power station is shown in section: the lines showing the supplier country run literally from every part.

More than 50 plants are involved in the cooperation: here is the Soviet "Atomnash," and the Czechoslovak "Skoda," machine building plants in Sofia and Magdeburg, the Hungarian Chepel'skiy combine, Romanian heavy machine plants and the Yugoslav "energoinvest" association. Polish enterprises are also involved in nuclear power engineering: the "Zamekh" mechanical plant in Elblong is setting up for production of steam turbines for the first Polish nuclear power station.

The basis of the Polish AES is the standard power unit of the "Novovoronezh family," which is economical and requires for a whole year no more fuel than can be carried in one aircraft. Power stations like the Novovoronezh AES are "in the same blood group," the same family of technology already developed in the USSR, the GDR, Bulgaria, Czechoslovakia, Hungary, and also in Finland; and now they are being built in Poland, Romania, Cuba...

And the first of the socialist countries to start up a power unit of the Novovoronezh family was the GDR. A power station was constructed in 1973 near the city of Greifswald.

The second power station of the "Novovoronezh family" was the Bulgarian Kozloduy AES. Kozloduy is a holy place for every Bulgarian. It was from there, 100 years ago, that the legendary march started to free the peoples of the country from the Turkish yoke. The revolutionary and poet Khristo Botev led that march.

From the kerosene lamp to the first AES in the Balkans; such is the road traversed by Bulgarian power engineering since the war. In 1944 a journalist working for the American journal NEWSWEEK wrote: "Bulgaria generates very little electric power; it does not even have enough for the advertising lights in New York's Time Square."

Today, per capita consumption of electric power has increased by a factor of 90! In terms of this index, Bulgaria has moved up among the top 20 states. It is not only outstripping its neighbors Greece and Turkey, but also Italy and Spain.

A power station of the "Novovoronezh family" is also operating in Czechoslovakia, at Jaslovce Bohunici.

Having started up the first generation of standard AES's with the aid of the USSR, the community countries are now switching over to more powerful nuclear stations, and the founder of this dynasty was born close to Voronezh--the fifth power unit of the Novovoronezh AES.

"Number five" is rated at 1 million kilowatts, and even superficially it bears no resemblance to its grandparents. It has nothing of their classical rectangular forms. It is a real individual and it looks like an unassailable fortress, like a rook in chess. Its protective shell is made from the hardest concrete, completely insulating the reactor from the environment.

There is not a soul in the tower that houses the reactor. All personnel are in a neighboring building, in the machine hall and at the control console that receives data on the operation of the unit.

I managed to meet the shift chief of the fifth unit, the young engineer Valdimir Rozyy, and I learned from him that compared with earlier units, the level of technology is several stages higher, having achieved the highest standard in the world with respect to design and radiation safety. Neither people nor the surrounding environment will suffer even if the inconceivable happened, for example, the main pipeline with the circulating radioactive water ruptured, the engineer assured me.

His senior colleague, the station chief engineer V.K. Sedov, speaking about the dynamic nature of present-day nuclear power engineering, stated that the main trend determining its progress is increasing the capacity of the units. This will enable the AES to become fully competitive with regular thermal power stations. In his words, the use of the "million unit" in the national economy is reducing the prime cost of electric energy by about 10-15 percent and enabling considerable savings of metal and fuel. This is why the "million unit" has been chosen as the main reactor in atomic circles. Most of the nuclear power stations built in the USSR during this five-year plan will be equipped with them.

The addresses of the new generation nuclear power stations abroad are still being specified, but the "million unit" has already become the subject of international cooperation. First, the scientists get involved. Then the construction workers follow them.

The Khmel'nitskiy AES in the Ukraine, consisting of four of the "million units" is being built by Hungary, Poland, the Soviet Union and Czechoslovakia on the same principles as the famous "Soyuz" gas pipeline or the Ust'-Ilim plant in Siberia. After startup, the amount of electric power that each of the partners will receive will be proportional to its contribution in building the nuclear power station.

The South Ukrainian AES is under construction in the same region, in Nikolayev Oblast. This is also an international construction site in which Romania is participating.

The double-purpose Bilibino heat and electric power station has been operating since 1973 in the Far North of the USSR. It generates electric power and heat for domestic needs. It is planned to construct nuclear heat and electric power stations near Odessa, Minsk, Khar'kov, Volgograd and other major cities. In Gorkiy and Voronezh the construction workers have started to build nuclear stations that produce only heat.

These power stations have a great future. They can be set up virtually anywhere and they do not require fuel stocks or transport to deliver fuel. Cities without smoke and soot--this is what the extensive introduction of these stations will mean for the economies of the CEMA countries.

A safe life,
A tender love,
And respect for the earth:
These are the gifts they will bring.
And great responsibility
Must be the constant companion of great knowledge.

This is how the poet Mikhail Dudin described his attitude toward the problem of safety at nuclear power stations in his poem "Inscription for a Nuclear Reactor." And what do the specialists think?

This is how the chief of the CEMA secretariat section on the use of nuclear energy for peaceful purposes, Aleksandr Feoktistovich Panasenkov answered this question:

"Of all the kinds of industry, the least harm is done to nature by those from which we expected the worst trouble. Right from its inception, nuclear power engineering has been disciplined to purity. Already in the first nuclear power station at Obninsk 'draconian' preventive measures were implemented. Severe restrictions and repeated backup systems and extreme care have become the standard in the operation of nuclear power stations built in the community countries."

The need to deal with the "peaceful atom" in this way was once again shown by the accident at the nuclear power station near Harrisburg in the United States in late March 1979. There was a leakage of radioactive material. True, the event was greatly exaggerated. The opinion was expressed that this was done by the oil monopolies, interested in playing down the significance of the nuclear section of world power engineering. At the same time, the Harrisburg incident indicates the need for the strictest observance of operating rules at nuclear power stations and for new, comprehensive tests and experiments to completely eliminate possible errors.

CEMA has organized a special expedition whose subject matter is "the AES and protecting the water resources of the Danube," since already Bulgarian, Hungarian and Czechoslovak nuclear power stations are in operation along this river, and a nuclear power station is under construction in Austria. Researchers from Bulgaria, Hungary, Romania, the Soviet Union and Czechoslovakia have not detected any rise in the level of radioactive substances in the water.

East of the 110th Meridian

Another CEMA expedition is now conducting research in Mongolia. Ancient customs forbade the Mongolians to upset the calm of the earth. Before the face of the all-seeing Buddha it should be left undisturbed. The valuable treasure house of the country lay locked in the ground until a real revolution had taken place in the minds and ways of its people.

The first international Soviet-Mongolian search party was led in 1932 by the eminent Russian scientist V.A. Obruchev. To this day his materials form the basis of the search now being conducted by Mongolian and Soviet geologists. With the aid of Soviet specialists, Mongolia's own geological community is being formed.

The deposits of copper ore that they have discovered in the interfluvium of the Selengi and Orkhon rivers are among the ten largest in the world. The reserves of coal top 15 billion tons. Mongolia has one of the world's largest reserves of fluorspar. Deposits of tungsten, zinc, lead, tin, iron ore, gold and gemstones have been found...

Mongolia became a member of CEMA in 1962. The country, which had started to move to socialism bypassing an entire social formation [that is, the stage of capitalism--ed] and lagged behind its European partners, began to develop at accelerated rates.

In accordance with the main propositions of the comprehensive program, CEMA began to give special attention to Mongolia, and also to Cuba and Vietnam, which became CEMA members later. The vitally important sectors of the national economy receive aid on an international basis.

Take, for example, the new construction sites in Ulaan-Baatar. The largest food store in the capital, the "Universam," was a gift from the community countries. A carpet factory was constructed using funds from the GDR. Hungary helped in the construction of a sewn goods factory. Poland helped with a woodworking combine, Romania with a circus, Czechoslovakia with a hospital.

Dozens of plants and factories in Ulaan-Baatar, Darhan, Choybalsan and Erdenet have been built with aid from the USSR. About half of the national industrial output is produced at these enterprises, along with 90 percent of electric power and 80 percent of coal.

Prices for meat exported to Bulgaria, Poland, the USSR and Czechoslovakia are preferential, as are the tariff rates and payments for the transportation of foreign trade freight between Mongolia and the other CEMA countries. This is the comprehensive program in action.

Take another example. Short-term credits made by the International Bank for Economic Cooperation take into account not only the economic level but also the seasonal nature of Mongolia's foreign trade. Agricultural products dominate in exports from countries such as Mongolia, Cuba and Vietnam, and their main payments are therefore made only during the second half of the year, while imports--the most important item in their economies--are spread evenly.

Aid is not restricted to the economic sphere. In the past, Mongolia was the most backward country in Asia, but it now has universal literacy and its own academy of sciences, university, opera house and ballet. Help from the friendly socialist countries is given in all aspects of the republic's life.

Mongolia participates equally and actively in two long-term programs, an agricultural program which is making it possible to accelerate resolution of the food problem, and a fuel and raw materials program, which involves the international expedition formed by CEMA. Geologists from the socialist countries are taking part in it.

Erdenetiyn-Obo, the mountain of treasure... Quite recently, within the lifetime of the present generation, Mongolian, Soviet and Czechoslovak specialists discovered there very rich deposits of molybdenum ore. And the "Erdenet" mining combine is already producing output. In terms of its capacity it stands among the giants like the (Artur), (Magna), (Morensi), (Sierritia) and (San Manuel) in the United States, the (Chukimata) and (Syu-El) in Chile, the (Brenda) in Canada and the (Tokepala) in Peru...

In our mind's eye we move from the north of the country to the northeast, to the Severo-Kerulenskiy aymak, east of the 110th meridian. Steppe, some forest, hills and mountains with valleys between. The climate is continental, with cold winters and hot, sunny summers. These are the conditions in which the international expedition is working. The highest leading organ--the Plenipotentiary Council--includes representatives from Mongolia, Bulgaria, Hungary, the GDR, Poland, the Soviet Union and Czechoslovakia. These countries are financing the expedition, free of charge and with equal inputs, and each takes care of its own specialists. Geologists from Cuba and Romania are also participating in the expedition. In all, there is a total of more than 400 people.

The representatives of the various geological schools have gathered in the Severo-Kerulenskiy aymak: the Bulgarian Kirill Khristov, senior mining

engineer; the Hungarian Andras Simon, leader of the geophysics party; Uwe Mitzdorf from the GDR, the chief engineer; and the chief geologist, our fellow countryman Vladimir Ivanov.

I met with the first chief of the expedition, the Mongolian geologist Jambin Byamba.

"This is an unusual expedition," he said. "It has been regulated according to the compass of agreed plans by the community states, and its discoveries are the fruits of combined efforts by people from different countries. Within our international collective special relationships of friendship, mutual respect and help have been established. It is an important and integral part of the socialist way of life. [no closing quotes]

We recall March 1981 when the picture of Jugderdemidiyn Gurragchaa, who was carrying out a complex space program with his Soviet comrade, smiled out at readers from the pages of the newspapers and journals. This space program gave special attention to space photography of Mongolia's natural resources.

Integration in space, the newspapers noted, is the logical extension of integration on Earth.

A Ring of Light

In Prague, alongside the memorial to the well-known Czech teacher Jungman, on the street that bears his name, a large gray building rises up. It houses the Central Dispatcher Administration of the Combined Power Systems (TsDU). It was established by the governments of Bulgaria, Hungary, the GDR, Poland, Romania, the Soviet Union and Czechoslovakia a quarter of a century ago.

Why is an international dispatcher service based in Prague? Because Czechoslovakia is located at the "energy crossroads" of Europe and occupies a central place in the CEMA combined power ring and is connected with most of the power systems in this ring.

...The typewriters clatter, telephones ring, voices are heard in different languages. The international dispatcher service has an international staff. The representatives of the different countries occupy in turn the chair of director. The first TsDU chief was the Czech engineer M. (Shtetke). He was followed in turn by V. Meshkov from the USSR, Z. Osinski from Poland, S. Mishev from Bulgaria, the Hungarian T. Pinter, and R. Michke from the GDR. The Soviet engineer R. Grinyuk now heads the dispatcher service.

The director's office contains a desk heaped with papers, a battery of telephones, and a map covering an entire wall. On the wall opposite there is the indicator lamp of a meter. As it flashed its "green eye" on and off, it constantly caught my attention.

"I see you are interested in our frequency controller," said Rostislav Grinyuk, and he looked at it himself. "This meter operates round the clock. Would you like to see our dispatcher hall?"

We walked to the control console, behind which sat engineer (Bodo Binek) from the GDR. In front of him were the instruments recording voltage and line loads, showing where current was coming from and going to at any given moment, which of the partners were exporting power, which ones importing it.

Not all the countries are able to fully meet their own needs for electric power. Many states experience these shortages from time to time. So that they could obtain electric power from their neighbors when they needed it, and, on the contrary, offer it to their neighbors, during the Sixties the socialist countries combined their own power systems into a single closed ring.

There are "peaks" on the graph showing demand for electric power, like a mountain range. The "peaks" of the neighbors do not coincide: demand for electric power in different countries changes not only by the hour and the minute, by the month and the season, but also depends of the nature of the industry and people's habits.

"Peak" loads do not usually coincide. The partners can direct their own capacities to any point where demand is particularly high at any given moment.

In the GDR it is still light, but in the Ukraine it is already evening: the street lights have been turned on, lamps burn brightly in homes, television sets have been switched on. At these hours the Ukraine requires additional power.

Once, several units malfunctioned simultaneously at one of the large power stations in Czechoslovakia. Perhaps they had to stop the lathes and turn off the lights on the city streets? Nothing of the sort. While the breakdown was being fixed, current from neighboring countries was fed into the power system in Czechoslovakia; it came from Hungary, the GDR and the Soviet Union via the cables of the CEMA combined power ring.

How did the tour of duty go for the engineer from the GDR? (Bodo Vinek) opens the incident book: no serious disruptions. Everything was quiet.

But his colleague, the Hungarian engineer Lajos Caba, told me that at one time Czechoslovak coal miners urgently needed extra power. The request was passed to the TsDU, and the duty engineer contacted the state dispatcher services (GDU) of the member countries. Who could help? Power engineers in the GDR responded...

The control console also reacts operationally to sudden overloads when there is a sudden cold spell or at hours when popular television programs are being relayed.

Full legal independence of the national systems and absolutely precise coordination of joint actions exist between TsDU and the GDU's. The TsDU gives no orders; it has the right only to recommend, for example, to replace obsolete equipment or carry out essential maintenance. In the event of an accident, the international service has a centralized reserve of power.

The electric power passed through the cables of the international lines is a commodity, just like machine tools or domestic appliances. This is why meters have been set up at the frontiers between the power systems. They calculate mutual exports and imports for all kinds of electric power delivered, including planned power passed in accordance with long-term contracts concluded by the foreign trade administrations.

In 1975 the Soviet Union transmitted about 10 billion kilowatt-hours of power to the European CEMA countries. By 1980, Soviet supplies had reached about 20 million. This became possible because the Vinnitsa-Albertirsa main high-voltage power line, which has no equal in Europe, had been brought up to load.

The LEP-750 power transmission line did not simply connect a city in the Ukraine with a Hungarian village; it created conditions for parallel operation of the Soviet Union's unified power system and the power systems of the European CEMA countries. Before then, the interstate power transmission lines had had limited throughput capacity and they did not enable the USSR unified power system to be hooked into the combined power system.

With the commissioning of the 750-kilovolt international power transmission line the situation changed; the USSR unified power system and the energy system of the states in East Europe can operate together, in the same conditions. There is nothing like this power ring in the world. The countries included in it have the facilities for transmitting electric power over enormous distances, from Berlin to the Urals, wherever they are experiencing the greatest need at any given moment.

The CEMA power ring is now easily thought of as the prototype of the "electricity bank" which could organize mankind for the rational utilization of the planet's resources for a total of 4.5 billion people.

In Accordance with Unified Standards

A new science for the CEMA countries, ergonomics (from the Greek ergon meaning work and nomos, meaning law) rose up at the intersection of a number of disciplines: psychology and anthropology, physiology and architecture, sociology and design. Its basic rule is maximum attention to the person handling equipment with automated control systems.

The reliability of these complex systems depends largely on the operator. Forty percent of the failures during testing of U.S. missiles have occurred because of operator error. Similar errors have occurred at sea when fast ships have collided, sunk and run aground. Accuracy in the operation of supermodern equipment is associated in the closest way with human psychological and physiological capabilities.

How far away from the instrument panel should the operator sit? Where should control levers be placed, and in what position? These questions are of fundamental importance. Accuracy in the work of the operator depends largely on the convenience of the working place.

How can work be made meaningful? creative? interesting? This is what ergonomics is all about.

A large collective is dealing with the problems involved in the science that deals with man: the staffs of the Institute of Industrial Aesthetics (Sofia) of labor (Budapest), of labor medicine (Berlin), of industrial design (Prague), of industrial design (Warsaw), of labor protection (Bucharest). The coordinator of this joint research is the All-Union Scientific Research Institute of Industrial Design, located in Moscow at the All-Union Exhibition of National Economic Achievements.

And how is ergonomics affecting the economy?

In Poland and Czechoslovakia, on the recommendations of ergonomists, reconstruction of the machine tool inventory has taken place. And the all-union "Soyuzelektronpribor" association, which includes 32 plants and dozens of design bureaus and scientific research institutes, has investigated its own output (1,200 designated items).

Ergonomics helps to look in a new way at many of the objects surrounding us, and to make reevaluations of concepts that even yesterday would have seemed beyond question.

Many articles are understood to have "quality" not only because of their improved technical or technologic attributes but also because of their convenience and comfort for human users. And this ergonomic criterion of quality is now regarded as a standard in CEMA.

Vladimir Ilich Lenin wrote: "Socialism is inconceivable with... equipment built according to the last word in science, without planned state organization subordinating tens of millions of people to the strictest observance of a single standard in production matters..."

Workers in the CEMA Permanent Commission on Standardization, the 16 CEMA sector permanent commissions on standardization, the CEMA Institute of Standardization and the 11 other international organizations of the community countries--the main centers around which work to develop CEMA standards is done--are guided by these basic propositions of Lenin. The most highly qualified specialists from the various countries participate in their development, from the draft to the official document that has the force of law.

This is great scientific research work. A special CEMA institute of standardization has been set up whose staff examines all new standards. Its data bank contains more than 200,000 units--sector and state standards for the community countries, standards used in the developed capitalist countries, and standards used by international organizations.

The development of a standard requires much effort and considerable funds. And for this reason it is advantageous to employ a unified standard, for if an already finished model is used, there is no need for everyone to work

out his own. In Bulgaria it has been calculated that if the republic's national economy introduces about 400 CEMA standards annually this will generate a savings of about 1 million leva. Moreover, the time taken to renew equipment is shortened by 1.5 to 2 years, startup of production is accelerated and raw materials and energy are saved.

Needles produced in the Soviet Union can fit sewing machines in other countries, in particular the GDR. As a result of the unification of packaging, billions of bottles and containers that would otherwise have to be produced by as many as 10 large plants, are used over and over.

The more CEMA standards there are, the easier it is for countries to trade with each other and exchange experience, achievements, ideas and designs. The container transportation system or the systems of computers can operate using unified standards. Now a unified automated system for communications between the CEMA countries is being born. And it all started from a standard...

During this five-year plan standards and requirements are to be worked out for all the main objects of socialist economic integration; indexes are to be established for the technical level and quality of output, and rules drawn up for safety, labor protection and environmental protection for certain sectors of the national economy.

For the automotive industry, for example, this means in addition to the requirements for carrying capacity, service life and safety equipment, the development of standards for individual power units and assemblies, and also for all materials used. The set of standards and rules for the footwear industry includes standards for leather, dyes, varnishes, glues, machines and equipment, and even packaging. In clothing production, requirements have been worked out not only for articles but also for fabrics, accessories, linings and buttons. In Hungary and the USSR, a unified system for the design of apparel for adults and children has been developed on the basis of CEMA standards. Varied in style and size, they should satisfy the tastes of all, large and small.

The community states already have more than 3,000 standards that orient the economies of our countries on the production of reliable and long-lasting articles.

The "Zdorov'ye" Cooperation Program

For millenia now, mankind has been trying to unlock the secrets of the brain, which Lev Tolstoy referred to as "the second universe." To decipher an enigmatic material made up of billions of nerve cells means to obtain reliable information on the facilities available to man. It requires the efforts of medicine, pedagogics, engineering psychology, cybernetics, bionics, philosophy.

Imagine a supersonic aircraft flying above the clouds, an underwater laboratory settled in the depths of the ocean, or a spacecraft. How can we know a human being's condition when we are separated from him by thousands of kilometers?

But then we hear the voice: "I feel fine. I am flying at the same altitude." Here, what is important is not only that the man speaks, but also how he speaks. From the subtlest indexes of frequency or amplitude in the voice it is possible to gain a sufficiently objective idea of people's psychological state when they are working in extreme conditions. This has been established by specialists working on the "Intermozg" program.

This program combines the efforts of academic institutions in Bulgaria, Hungary, the GDR, Cuba, Poland, Romania, the Soviet Union and Czechoslovakia. The program includes dozens of sections engaged in the very important problems of neurophysiology. Scientists are conducting research on the most subtle processes taking place in the nerve cell, modeling the properties of higher neural activity with the aid of cybernetics, and investigating the problem of neursoses. There are also subjects of an applied nature, as for example, the study of the pain mechanism.

In Havana, in a special vivarium at the Institute of the Brain, experiments are being conducted in monkeys, which scientists think can help to penetrate the laws of higher neural activity in man. Also in Cuba, it is planned to set up an international laboratory--a marine laboratory. The oceans of the world possess very rich material for neurophysiological experiments. In particular, mollusks and octopuses possess quite complex nervous systems--about 10,000 nerve cells concentrated in one place. This makes it possible to determine rather more easily which nerve cells are associated with a given kind of activity.

Links between scientists are also being developed in other fields of health. They have been maintained in accordance with the plans since 1956, when round-table talks began on a regular basis between the health ministers of the socialist countries. The CEMA Permanent Commission on Public Health was set up in 1975.

I was able to meet with the chief of the CEMA health secretariat, Sergey Andreyevich Syagayev.

"At present, problems of preventing and treating disease and problems of medical science and technology are of enormous significance," he told me. "Our countries regard the protection of health as one of the main social and economic tasks. And this is not by chance. In the modern world, public health is an important national economic sector, actively affecting a society's production forces. And here, a major role is played by cooperation. Since the socialist countries have unified principles for protecting the health of the population we can improve our medical services conjointly, and exchange experience, ideas and plans. Finally, we are developing a common approach to the resolution of problems such as providing dispensary facilities for the public, the use of new equipment in hospitals and polyclinics, and the construction of treatment facilities... [no closing quotes]

One major international plan is devoted to cardiovascular diseases. More than 100 medical establishments in the CEMA countries are engaged in this subject and conducting comprehensive research. And already we have the first

results. New patient rehabilitation methods have been introduced into therapeutic practice, new diagnostic instruments, new equipment for automatic interpretation of EKG's.

Another major program is the assault on the "disease of the age"--cancer. Oncologic studies require prodigious facilities--expensive equipment, a large number of checks, strict evaluation of diseases. Some 129 scientific research institutes and clinics in the CEMA countries are involved in this program. The USSR Oncological Center headed by academician N.N. Blokhin is coordinating their cooperation. Some 30 monographs (including a collective work entitled "The Struggle Against Cancer in the CEMA Countries") have already been prepared and published, the first important recommendations issued (one of them is connected with reducing air pollution by carcinogens from automobile exhaust gases), and a textbook on oncology used in all the medical VUZ's, published. International tests on Soviet and Hungarian drugs are nearing completion at clinics in Bulgaria, Hungary, the GDR, the USSR and Czechoslovakia.

The "Compendium Medicamentorum" is a summary of documents containing unified requirements for all possible kinds of tablets, mixtures and solutions. It is accelerating by 3 to 5 years the introduction of new drugs produced by the pharmaceuticals industry in the CEMA countries. It contains descriptions of methods for preparing, storing and checking drugs, and also indications of maximum doses, and it is also a unique kind of official guide for pharmacists.

The next international program, "Intertransplant," is devoted to transplants, a developing branch of surgery, of biological compatibility, and selection of the optimum recipient, that is, the patient in whom it is possible to implant a donor kidney. Kidney graft surgery has already saved the lives of many patients who 10 or 15 years ago would have been doomed.

In Prague a unique data bank has been set up. It contains information on patients and all the information on donor kidneys available in a given country. The recipient is selected by computers set up in the Prague Institute of Clinical and Experimental Medicine. In only a few seconds the "Intertransplant" computer determines which patient can receive a donor kidney. Prague immediately transmits its answer to the country where the kidney is being held, and to the country where the recipient is.

The donor kidney is sent to the country where the patient is by the first possible scheduled flight, packed in a special container. Under the terms of the agreement, the container is shipped free of charge and without customs inspection, and the dispatcher service is obliged to do everything possible to deliver it to the addressee in the shortest possible time.

Integration in health...

By combining their efforts and organizing an international division of labor the community countries are solving the problems affecting millions of people more quickly, more effectively and more energetically.

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USSR-CEMA TRADE

STRUCTURAL DISPLACEMENTS IN CEMA NATION INDUSTRY

Moscow EKONOMICHESKOYE SOTRUDNICHESTVO STRAN-CHLENOV SEV in Russian No 12, Dec 82
pp 19-22

[Article by Zdenek Rahac, CEMA Secretariat: "Structural Displacements in the Industry of the CEMA Member-Nations"]

[Text] Industry, the leading sector of the national economy, has developed especially dynamically in all the CEMA nations in the decade which has elapsed since the Comprehensive Program was adopted. Between 1971 and 1981 the volume of industrial output in those nations increased by 75% overall, with an average annual growth rate of 5.5%.¹ Industrial output volume grew by 96% in Bulgaria, 57% in Hungary, 73% in the GDR, 80% in the Republic of Cuba,² 158% in the Mongolian People's Republic, 71% in Poland, 167% in Romania, 71% in the USSR and 66% in Czechoslovakia.

The main feature of the industrial development of the CEMA nations during this period, especially in the second half, was the trend toward the formation of an international economic complex. It has developed on the basis of all-round expansion of cooperation aimed at increasing the effectiveness of the CEMA nations' public production through the joint resolution of scientific and technological problems.

The importance of long-term programs of production specialization and cooperation among the CEMA nations has increased as we have implemented the Comprehensive Program. Over the past ten years the CEMA nations have concluded more than 100 multilateral and more than 1,000 bilateral agreements (contracts) on production specialization and cooperation. In 1981 output produced under specialization accounted for approximately 35% of the total volume of machinery and equipment exports for the machine-building, radio-engineering and electronic industries, compared with 18% in 1973.

On this basis there has been rapid development of the production of radio-engineering and communications equipment in Bulgaria, transport equipment and agricultural machinery in Hungary, radio-engineering equipment and equipment for the chemical and other branches of industry in the GDR, shipbuilding and the production of port equipment in Poland, oil extraction and refining equipment and electrical-engineering equipment in Romania, transport equipment, agricultural machinery and machine tools in the USSR, and equipment for the textile industry and for working metal and the production of trucks in Czechoslovakia.

Since the adoption of the Comprehensive Program 193 problems involving 808 specific subjects have been jointly worked out under scientific and technological cooperation plans. Around 3,000 scientific research and planning and design organizations took part in this work. As many as 2,000 projects of both a theoretical and an applied nature are currently being developed annually.

The utilization of significant reserves, the ever increasing use of intensive growth factors, primarily in the area of production specialization and cooperation, and the accelerated application of scientific and technological achievements have made it possible to develop the industry of the CEMA nations more rapidly than that of the capitalist countries. This is borne out by the data presented in the table.

Average Annual Growth Rates for Industrial Output (%)

	1961- 1965	1961- 1970	1966 1970	1971 1975	1971 1980	1976- 1980	1981
CEMA nations	8.3	8.3	8.3	7.7	6.3	4.8	2.2
EEC nations	4.1	4.7	5.4	1.5	2.3	3.2	- 2.1

More rapid rates of growth for the industrial output of Romania, Bulgaria and Hungary have resulted in an increase in those nations' portion of the total industrial output volume of all the CEMA nations.

A study of growth rates for the per capita industrial output of Bulgaria, Hungary, the Republic of Cuba, the Mongolian People's Republic, Poland and Romania shows an overall equalizing trend resulting from the outstripping rates of development of those nations.

Accelerated scientific and technological progress in the 1970s resulted in more rapid development for production of the means of production (group "A") in the CEMA nations. It experienced an overall growth of 2.3-fold between 1971 and 1981, while the production of consumer goods (group "B") increased 1.8-fold.

Application of the latest achievements of science and technology not only accelerated the automation of production and the employment of chemical methods in the national economies, but also contributed to the production of new types of products and the creation of new branches.

More rapid development of the production of means of production resulted in a change in the ratio between groups "A" and "B" in the gross output of all industry. The share accounted for by group "A" in the industry of nations in the socialist commonwealth increased from 70.6% in 1971 to 71.5% in 1981 (69% in 1960).

This was due also to shifts in the branch structure of industry. This structure continued to be improved through, among other things, international socialist division of labor, which contributed to the development of those branches which determine scientific and technological progress and help to build up economic potential.

These shifts are reflected in an increased or a reduced specific share for the gross output of a number of branches in the gross output of industry as a whole.

Since the beginning of the 1970s production growth rates for the machine-building, metal-working, glass-making, porcelain and earthenware, chemical and rubber and asbestos branches have exceeded the average growth rates for gross industrial output of all the CEMA nations (with the exception of the Mongolian People's Republic). This has produced a further increase in their specific share of gross industrial output as a whole, which has been reflected in shifts in the branch structure.

Along with this there has been a reduction in the share of output contributed by such traditional industrial branches as the metallurgy, fuel, lumber and woodworking, textile, sewn goods and food branches.

The overall equalization of branch structures in the separate CEMA nations has continued.

While the share of gross output contributed to overall production by the machine-building and metal-working industries has increased sharply since 1971 in nations of the socialist commonwealth, the corresponding indicator for the EEC nations has grown insignificantly or even dropped as a result of crises: from 37% to 31% in Great Britain, 37.7% to 38% in the FRG, 27.4% to 27.6% in Italy, 32.6% to 31.5% in the Netherlands, and so forth. The portion contributed by this branch of industry to the gross output of the European CEMA nations approximately equals the corresponding figures for the EEC nations.

The changes in the branch structure have of course resulted from an increase in labor productivity (the decisive factor) and an increase in the number of workers. Between 1971 and 1981 labor productivity in the CEMA nations' industry increased by 53%, accounting for almost four fifths of the entire growth of output. The corresponding figures for the period 1962-1971 were more than 60% and two thirds. Most of the growth occurring in the past decade has been achieved by making efficient use of such important factors as technological progress, the capital-labor ratio and the output-capital ratio.

Structural displacements also depend upon the capital investment policy. The average annual amount of capital invested in the industry of the CEMA nations as a whole increased approximately 100% between 1971 and 1981. It was applied primarily to the development of those branches which are of decisive importance with respect to intensification of the national economy. There was a considerable increase in the volume of investments in the machine-building and metal-working, light, food, woodworking, printing and footwear branches.

This also resulted in a change in the portion accounted for by individual branches in the total volume of capital invested in industry during the period 1972-1981. For example, there was a large increase in the specific share of capital investments for machine building and metal working in the total volume of capital invested in the industry of the CEMA nations. In 1981 the figure was 28% for Bulgaria, 16% for Hungary, 26% for the GDR, 10% for the Republic of Cuba, 24% for Poland,¹ 26% for the USSR and 23% for Czechoslovakia. The share of the chemical and the rubber and asbestos branches in the total volume of capital invested in industry did not change significantly on the whole, being 11% in Bulgaria, 9% in Hungary, 11% in the GDR, 10% in Poland,¹ 14% in Romania,¹ 8% in the USSR and 7% in Czechoslovakia. The percentage actually dropped in Poland and Czechoslovakia.

In most of the CEMA nations the portion of investments in the fuel industry and ferrous metallurgy was smaller than during the preceding period. The fuel and energy branches continue to account for a considerable share of the total capital investments in industry, however. In 1981 the figure was 9% in Bulgaria, 17% in Hungary, 13% in the GDR, 17% in the Mongolian People's Republic,¹ 21% in Poland,¹ 13% in Romania,¹ 25% in the USSR and 14% in Czechoslovakia. The high percentage for the USSR is a result of large investments in the oil industry.

Along with production intensification the structural changes occurring in the area of capital investments have had an important effect on the dynamics and the composition of industry's fixed capital, especially productive capital, has increased considerably during the process of implementing the Comprehensive Program as a result of large-scale capital construction and coordination of the policy for distributing capital investments among coordinated areas and projects in the CEMA nations. The funds have been used both to create new capacities and to retool and convert enterprises. Capacities for electric energy production, steel smelting, the production of cement, synthetic fibers, plastics and synthetic resins, and others increased during the period 1971-1981. Through the joint efforts of the CEMA nations, for example, construction was completed on the first stage of the Kiyembayevskiy Asbestos Ore-Dressing Combine, the "Sovuz" gas pipeline was constructed and placed into operation ahead of schedule, construction of a pulp mill on the Ust'-Ilmsk River is being completed, and so on.

Progressive changes are taking place in the structure of industrial production capital. The specific portion accounted for by buildings and structures has been reduced and the portion represented by machinery and equipment has grown in most of the CEMA nations. In 1980 machine building and metal working accounted for 15.8% of the total fixed capital in Bulgaria (12.8% in 1970), 18.5% (18.8%) in Hungary, 22.8% (17.3%) in Poland, 32.3% (20.7%) in Romania, 23.7% (20.0%) in the USSR and 19.5% (18.3%) in Czechoslovakia.

The fixed capital was altered in various ways within the same branches of industry. This included changes resulting from specialization of the branches in accordance with socialist economic integration.

One of the most important factors contributing to the increase in labor productivity is the ever increasing capital-labor and power-worker ratio, and this is directly linked to the start-up of qualitatively new production units. The increase in capital investments and the fixed capital for machine building and metal working has considerably improved the capital-labor ratio. The switch to intensive development of industrial capacities and the necessity of making efficient use of energy resources resulted in reduced rates of growth of the power-worker ratio, compared with the preceding period.

An increase in the share of electric and thermal power in the total volume of industrial production among the CEMA nations has been an important structural shift. It was produced primarily by the development of those branches in the USSR and Hungary. For example, the USSR's portion of the total production of electric and thermal power in the CEMA nations has grown to almost 75%. The outstripping development of power engineering, compared with industry as a whole, is still not commensurate with the growth in electric-energy consumption in the national economies of most CEMA nations, however. This is why a course was taken at the end of the past decade to conserve energy resources by reducing their specific consumption.

Hydraulic power engineering has been developing more slowly than thermal or nuclear power engineering and is accounting for a constantly decreasing share of the electric energy production. In the 1870s structural displacements in power engineering occurred in the form of increasing electric energy production at plants operating on low-grade coal and natural gas and at nuclear electric power plants. The most rapid rates of growth occurred in nuclear power engineering.

During the past decade special attention has been given to the efficient use of fuel and energy resources in all the socialist commonwealth nations. As a result the fuel industry's share of the total gross industrial output dropped in all the nations, with the exception of Bulgaria.

Improvement of the structure has had a positive effect upon the extraction and consumption of fuel and energy raw materials, of which the USSR is the main supplier for the CEMA nations. Between 1970 and 1981 oil, petroleum products and gas accounted for a steadily increasing portion of the energy supply, although the rate of increase was slower at the end of the 1970s. Overall the specific share of oil in the production of energy resources for the CEMA nations (converted to a conventional fuel scale) increased from 33% in 1970 to 37% in 1981, while the share for natural and casing-head gas increased from 17% to 25%. The portion contributed by coal in this balance experienced a corresponding drop from 49% to 33%.

Machine building and metal working occupy an important place among the industrial branches of the CEMA nations in such respects as dynamics and displacements in the production structure and trends toward the equalization of economic development levels. The portion contributed by machine building to the total gross output of the CEMA nations increased in the 1970s. The highest level of gross per capita output for machine-building has been achieved in the GDR. Corresponding indicators for the other nations have improved considerably and are moving toward equalization.

Changes occurring in the branch structure since the beginning of the 1970s have occurred mainly as a result of the scientific and technological revolution. A course was taken toward the development of electronics and electrical engineering. For example, output of the electrical engineering and electronics industries increased 1.5-fold more rapidly in Bulgaria than did machine building overall in the nations. There was a 30% growth in Hungary.

Positive shifts also occurred in transport machine building, with the greatest growth occurring in the production of passenger cars. The portion of automatic and semi-automatic equipment and so forth in machine-tool production increased. A number of highly efficient, specialized enterprises were created, including enterprises for the manufacture of equipment for nuclear electric power plants. We should especially note the accelerated growth of durable consumer goods production in machine building. Changes occurring in the structure of their production involved the assortment of machine-building products and a reduction in the specific portion of metal-consuming items.

The portion contributed by the chemical and the rubber and asbestos industries of the other nations was greater in 1981 than the 1971 level. There was a change in the ratio of levels of gross per capita output of the chemical industry. In all the CEMA nations its rates of development were greater than rates of growth for gross industrial output as a whole. This accounts for the increased share of the chemical industry

in the branch structure of the industries of all the nations. In the 1950s and 1960s growth occurred primarily in the production of inorganic chemical products (sulphuric acid, ammonia, soda and so forth).

The implementation of measures covered in the Comprehensive Program helped to provide the chemical, paper and pulp and microbiology industries in the CEMA nations with a better supply of mined and chemical, hydrocarbon and vegetable raw materials. The supply of products from these branches for the national economies improved, and a number of important economic and social problems were resolved. The organic synthesis branches began to be developed in the 1970s, the material prerequisite for which was the improvement of petrochemistry and the chemistry involved in the refining of natural gas. This provided the basis for the rapid production of plastics, synthetic fibers, synthetic rubber, ethylene oxides, propylene and products refined from them, as well as small chemical products, medicines, chemical plant protection means and so forth. The production of mineral fertilizers also continued to grow at rapid rates.

Trends in the development of the light and food industries and structural displacements occurring therein have confirmed the concept that the industrial branch structures of the CEMA nations are moving toward uniformity. The portion contributed by the USSR in the total output of the individual light and food industry branches (except for the paper and pulp branch) decreased, while those of Romania, Hungary, the Mongolian People's Republic and the Republic of Cuba increased. Rates of development for these branches were somewhat lower than the rates of growth for industry as a whole. This has been determined to a considerable degree by the rates of output of agricultural products. This is why the specific portion of the above branches (except for the glass-making and the porcelain and earthenware branches) has decreased in the total volume of gross industrial output for the CEMA nations.

Overall, during the period 1971-1981, the textile industry accounted for the greatest share of the light industry branches in the total gross industrial of the CEMA nations, although this portion dropped from 11% to 9%. The production of synthetic and non-woven materials, knitwear and so forth increased greatly in the gross industrial output. The glass-making, porcelain and earthenware and sewn goods industries developed most rapidly. The assortment produced by the leather and footwear industry was altered. This resulted from a shortage of natural raw materials, which produced a considerable increase in the production and use of artificial leather.

In the 1970s the largest changes occurred in the correlation between gross per capita outputs for the light and food industries in a number of CEMA nations.

And so, structural displacements in the industry of the CEMA nations during the 1970s primarily involved the development of the fuel and energy base and the output of metal products. At the same time there was a trend in a number of the nations, which carried over into the 1980s, to optimize the branch structure of industry by developing, in the first place, those branches determining scientific and technological progress, in the second place, those consuming the smallest amounts of energy and materials, and in the third place, those producing consumer goods.

The orientation of most CEMA nations toward the creation of industrial complexes under the new circumstances of economic growth produced by the process of international

socialist production specialization and cooperation, an orientation which was justified during the period of industrialization, is gradually changing. Coming sharply to the fore on today's agenda is the task of improving the branch structure of the fraternal nations' industry on the basis of international production specialization and cooperation, elimination of unwarranted duplication, increased series-production and improvement of the commercial quality of products based on production concentration.

FOOTNOTES

1. The Socialist Republic of Vietnam not included here or in the rest of the article.
2. 1980 as a percentage of the 1970 figure.
3. 1980.
4. 1980.

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USSR AIDS IN BUILDING IRON, STEEL PLANTS

Moscow SOVIET EXPORT in English No 2(137) 1982 pp 42-46

[Article by I. A. Kapranov, Chief of Economic Planning Administration, USSR State Committee for Foreign Economic Relations]

[Text]

The Soviet Union's economic and technical co-operation with developing nations is based on long-term intergovernmental agreements running for 10, 15 and more years, which enable these nations to plan their economic development for decades ahead. This co-operation serves the interests of developing countries, helps them strengthen the public sector of their economies and to increase their export, helps draw these nations into the international division of labour as equal partners.

At the May, 1976, UNCTAD Conference in Nairobi the Soviet Union expressed its readiness to increase the volume of economic and technical aid to the developing countries 1.5 times within five years. Actually, the export of Soviet complete plant to these countries in 1980 was 1.9 times up on the 1975 level.

Industrialisation of the developing countries proceeds chiefly along the lines of building national metallurgical enterprises. The Soviet Union is of great help in solving this complicated problem. In 1976—1980, put into operation were six blast furnaces and eight converters with annual output capacities of

4.4 million tons of iron and 4.5 million tons of steel, respectively, and aluminium factories with a total output capacity of 200,000 tons a year. Altogether, the metallurgical enterprises built with Soviet assistance in India, Iran, Turkey, Egypt and Algeria accounted for about 35% of iron and 20% of steel produced by all the developing Afro-Asian countries in 1980.

India

The Bhilai Iron and Steel Works is one of the greatest products of Soviet-Indian co-operation. In twenty years it has turned out more than 35 million tons of steel and 30 million tons of rolled stock. In latter years it has accounted for about a quarter of India's entire steel output. Now the USSR is helping India to bring the Works' capacity up to four million tons a year; ultimately it will amount to five million tons a year.

The Bokaro Iron and Steel Works' current output capacity is 2.5 million tons of steel a year. Plans are afoot to increase this figure to 5.5 million tons. To keep its metallurgical enterprises supplied with raw materials, India

THE CAPACITIES OF
METALLURGICAL
ENTERPRISES BUILT OR
UNDER CONSTRUCTION IN
DEVELOPING COUNTRIES
WITH TECHNICAL
ASSISTANCE OF THE USSR
(as of January 1, 1981)

	Provided for by agreements	Actual to date
CAST IRON, mln. t	27.0	10.8
STEEL, mln. t	26.1	9.7
ROLLED STOCK, mln. t	21.7	7.5
IRON ORE, mln. t	13.0	13.0
AGGLOMERATE, mln. t	27.2	13.5
COKE, mln. t	20.3	8.8
BAUXITES, mln. t	3.0	2.5
ALUMINA, thous. t	1,000.0	200.0
ALUMINIUM, thous. t	466.0	293.0
ALUMINIUM ROLLED STOCK, thous. t	25.0	25.0

THE NUMBER OF
METALLURGICAL
ENTERPRISES BUILT OR
UNDER CONSTRUCTION IN
DEVELOPING COUNTRIES
WITH TECHNICAL
ASSISTANCE OF THE USSR
(as of January 1, 1981)

	Provided for by agreements	Of which commissioned
FERROUS METALLURGY	22	16
NON-FERROUS METALLURGY	17	8

has built, with Soviet co-operation, the Rajara-Pakhar and Dalli ore mines with a total output capacity of 6.5 million tons of iron ore a year, and the Nandini quarry producing 2.1 million tons of limestone a year.

The Soviet Union is rendering India assistance in designing and building a third metallurgical enterprise—in Vishakhapatnam—with a capacity of 3 million tons of steel a year. Towards the mid-eighties the industrial enterprises now being built in India with Soviet assistance will be producing about 14 million tons of steel a year.

The Soviet Union has helped India to build its largest aluminium factory (in Korba) with an output capacity of 100,000 tons a year. When brought up to full capacity, the factory will account for about 30 per cent of the country's total aluminium output.

Iran

The Isfahan Iron and Steel Works is a major product of Soviet-Iranian economic co-operation. Annual output of its first stage amounts to 550,000 tons of steel. Work is now under way to bring the Works' capacity up to 1.9 million tons of steel a year. This is Iran's only metallurgical enterprise with a complete production cycle. Working entirely on coal, the Isfahan Works employs more than 60,000 workers and office staff. Soviet organisations have also rendered technical assistance to Iran in building a complex of coal mines, coal preparation plants, iron-ore, quartzite, dolomite and other mines essential to the ferrous metallurgical industry.

Turkey

The USSR gave Turkey a hand in building an iron-and-

steel works in Iskenderun, with an output capacity of one million tons of steel a year, and an aluminium factory in Seydisehir capable of producing 200,000 tons of alumina, 60,000 tons of aluminium and 25,000 tons of rolled stock a year. Both enterprises were commissioned in 1979. The Iskenderun Works is responsible for about a third of the country's total steel output. Its capacity is now being brought up to 2.2 million tons. The Seydisehir factory is the "firstling" of Turkey's aluminium industry. It produces almost all the aluminium and rolled stock the country needs and saves Turkey 50 million US dollars a year.

Pakistan

The Soviet Union is helping to build a complete-cycle iron-and-steel works near Karachi with an output capacity of 1.1 million tons of steel a year. The first iron-producing complex has been put into operation in 1981. It comprises a blast furnace, a sintering plant, a coke-oven battery, a power plant, and other units. When brought up to full capacity, the enterprise will be capable of producing 260,000 tons of steel blanks, 445,000 tons of hot-rolled strips, 90,000 tons of cold-rolled strips, 100,000 tons of galvanized sheets and 120,000 tons of roll-formed sections a year.

Sri Lanka

The USSR is taking part in building the second stage of the iron-and-steel works in Oruvel—an electric steel smelting shop with a continuous steel casting plant. The enterprise will manufacture scrap castings which are now imported.

Algeria

The second stage of the iron-and-steel works in El-Hadjar, with an annual output capacity of two million tons of steel, has gone into operation. The Works also produces coke, iron, wire and reinforcement. The country can now meet about half of its requirements in ferrous metals. The El-Hadjar complex, being built with the Soviet Union's assistance, will not only stimulate the progress of many other branches of Algeria's national economy, but will also help the country to cut down on imports and increase its export potentialities.

Egypt

The Helwan iron-and-steel works, now nearing completion, is one of Egypt's largest industrial enterprises. Once its rated output capacity is reached, it will produce 1.5 million tons of steel a year. At the Egyptians' estimate (the *Mussawar* magazine, June 15, 1979), the Works will save the country 150 million Egyptian pounds in foreign currency a year. This enterprise is unequalled in Egypt for the role it plays in the country's economic progress, for the extent of its influence on many branches of the Egyptian economy, for the number of jobs it provides.

The aluminium factory in Nag-Hammadi is another striking product of Soviet-Egyptian co-operation. This enterprise with an output capacity of 100,000 tons of metal a year was commissioned in April, 1977. The same year it reached its rated capacity and not only met the country's demand for aluminium in full, but, thanks to aluminium export, brought Egypt an annual income of 20 million

US dollars in hard currency. The factory's capacity is now being brought up to 166,000 tons. New factory blocks are being built and fitted out with modern Soviet equipment.

The Congo

Soviet geologists have found lead and zinc ore deposits from which the ore-dressing mills in M. Fouati, built with the USSR's technical assistance, draws its raw materials. The independent Congo's first ore mining enterprise is increasing its output of lead concentrate which has a market abroad.

Guinea

Soviet organisations have built a national bauxite mine with a capacity of 2.5 million tons near Kindia. The mine is fitted out with the latest mining and transportation equipment. A railway track, 100 km long, connects it with the port of Conakry where a specialised moorage has been built for transshipping ore from railway cars to sea-going vessels. The settlement next to the mine offers the workers every modern comfort.

The USSR renders Guinea assistance in operating this highly profitable mine, one of Africa's largest, which forms the basis of the public sector of the Guinean economy. Completed at the end of 1974, the mine exceeded its rated capacity as early as 1976. Under a special agreement, a substantial proportion of its bauxite output is delivered to the Soviet Union (partially in repayment for credits).

Nigeria

A metallurgical plant with a capacity of 1.3 million tons of

steel a year, going up in Ajaokuta, is the main object of our co-operation. Its capacity is to be increased, stage by stage, to five million tons. This industrial enterprise, the biggest in tropical Africa, will help consolidate Nigeria's economic independence, create new jobs, reduce metal import and stimulate the progress of the processing industry and mechanical engineering. Much is being done to ensure an uninterrupted supply of raw materials to the plant. Soviet and Nigerian geologists have found deposits of iron ore and coal which can be processed into metallurgical coke. Geological prospecting continues.

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TRADE WITH LDC'S

SOVIET TRADE WITH AFRICAN COUNTRIES

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[Article by R. F. Tarzimanov, Head of Department for Trade with African Countries, USSR Ministry of Foreign Trade]

[Text] Trade between the USSR and African countries is becoming ever more stable. Over a short period, the USSR has established good business contacts with practically all the independent countries of that continent, and signed intergovernmental trade agreements with 39 of them. These agreements are based on the principles of full equality of both sides, respect for national sovereignty and non-interference in each other's internal affairs. The Soviet Union and its African partners provide each other with most favoured nation treatment which suits the interests of both sides and creates reliable prerequisites for the expansion of mutually beneficial trade. As they gain experience in dealing with each other, and as the specific market situation changes, the sides readjust their trade agreements accordingly so as to make the most of their trade possibilities.

In 1975—1980, the USSR's trade with African countries grew from 1.4 to 2 thousand million roubles, or 43%. The commodity structure of this mutually profitable trade is most favourable. It is varied, and depends on the sides' potentialities and needs.

Our export to African countries also grew apace—in the period of 1975—1980 it increased from 0.5 to 0.9 thousand million

roubles, i.e. almost doubled. The USSR supplied its African partners with industrial goods in the main necessary for the modernization of their economies. We export to Africa a broad range of modern Soviet equipment including complete plant for large industrial enterprises constituting the basis



THE GROWTH OF TRADE BETWEEN THE USSR AND AFRICAN COUNTRIES (thousand million roubles)

of a number of African countries' industrial potential. Installations completed to date include the second phase of the iron and steel works in Algeria which has brought that enterprise's capacity to 2 million tons of steel a year, a bauxite mine with an output capacity of 2.5 million tons a year in Guinea, etc.

Soviet planes, helicopters, cars, tractors, combine harvesters and other farm machines, various machine tools, process equipment and domestic appliances are giving reliable and efficient service in many African countries. Soviet organisations take care to ensure the proper servicing and maintenance of the machines and equipment supplied, and render assistance in setting up repair stations and spares depots and in training national personnel.

Other Soviet exports to African countries include building materials, potassium and nitrogen fertilizers, fabrics, medicines, medical instruments and equipment, and various consumer goods.

The Soviet Union, in its turn, buys from African countries certain products. For instance, large quantities of bauxites, highly effective phosphorous fertilizers, cocoa beans, citrus fruit, fruit juices, grape wine, olives, oilseed, spices and plant fibres are imported from Africa. Big contracts for the delivery to the USSR of these and other products gives African countries a reliable market free of crises and price fluctuations.

Soviet foreign trade organisations share their experience with their partners in the newly-free countries, promote trade with them in every way (specifically by taking part in international exhibitions arranged in African countries, and organise specialised exhibitions of export goods. The USSR Chamber for Commerce and Industry is most active in this respect.

Angola, Algeria, Libya, Morocco, Mozambique, Nigeria, Ethiopia and Ghana are the Soviet Union's biggest trade partners in Africa. At the same time, we do little business with some countries on the continent. The

Soviet Union has neither direct, nor indirect trade links with the racist regime of the South African Republic.

Active trade and economic co-operation between the USSR and Algeria is making good progress. The new trade agreement, signed in 1979, has provided the groundwork and a stimulus for this co-operation. In 1980, trade between the two countries increased almost 1.4 times as compared with 1979, and amounted to 155 million roubles. Under long-term agreements, Algeria receives from the Soviet Union machines and equipment (chiefly complete plant), building materials and other products, paying for them in pig iron, zinc, wine, fruit juices, etc.

The trade agreement between the USSR and the People's Republic of Angola is five years old. In this short period, Angola has become one of the Soviet Union's main trade partners on the African continent. In 1976—1980 trade between the two countries grew more than fourfold (from 20 to 85 million roubles), and the range of deliveries extended considerably. The USSR exports to Angola chiefly motor vehicles, tractors, planes, helicopters and other equipment. In turn, that country regularly supplies the USSR with coffee and other products.

Trade between the Soviet Union and Socialist Ethiopia is also growing at a rapid rate. Within three years of signing the Soviet-Ethiopian trade agreement, trade between the two countries grew sixfold to reach 146 million roubles in 1980. Both sides expect this upward trend to continue—and with good reason, too.

Machines and equipment constitute the bulk of Soviet export to Ethiopia. They have won a good reputation on the local market. We supply Ethiopia with trucks, cars, tractors and farm machines. The marketing and servicing of this equipment in Ethiopia are taken care of by the Efso Trading company which was awarded the Gold Mercury international award recently.

In turn, Ethiopia sells us its traditional exports—coffee, oilseed, as well as certain products of its developing national industry.

The USSR's trade with the Libyan Jamahiriya, based on long-term agreements, is making steady progress: it grew more than 20-fold in the last five years. We supply Libya with a wide range of goods—numerous types of machines and equipment, above all. Export earnings are spent on traditional Libyan exports.

Trade between the USSR and Nigeria, the largest country on the African continent, amounted to almost 100 million roubles in 1980. The Soviet Union supplies Nigeria with machines and equipment, primarily trucks, cars, tractors, diesel generators, and mobile power plants. These goods account for over 60% of the value of Soviet export to that country. Soviet equipment is successfully promoted on the Nigerian market by the WAATECO joint-stock company. Nigeria supplies us with cocoa beans, one of its main exports.

USSR—Moroccan trade and economic relations registered marked progress in the last few years. In 1980, trade between the two countries amounted to 198 million roubles, which is more than 50% up on the 1979 figure. The USSR is one of that country's ten biggest trade partners and a major buyer of Moroccan citrus fruit, cork-tree bark and products, superphosphate and phosphoric acid.

The strengthening trade and economic relations with the USSR and other socialist countries help African countries not only to solve their economic and social development problems but also enable them to make a more confident effort towards economic independence.

The Soviet Union's continued economic progress, the growth in the African countries' economies, the experience of co-operation accumulated in the last few years and the mutual desire to further this co-operation—all this promises a great future for trade between the Soviet Union and African countries.

SOVIET TRADE WITH MEXICO HIGHLIGHTED

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[Interview with G. D. Shurinov, Trade Counsellor of the USSR Embassy in Mexico and Roberto Davila, General Director of the Board for International Cooperation under Mexico's Trade Ministry by B. T. Kossykh, date and place not given]

[Text] **S.E.:** It is a well-known fact that as early as 1924 Mexico was the first country in Latin America—and in the Western hemisphere, for that matter—to establish diplomatic relations with the USSR. At the same time trade links between our two countries were established. What's the state of Soviet-Mexican trade today?

G. D. SHURINOV: The seventies brought a qualitatively new stage in Soviet-Mexican trade. The first trade agreement providing for mutual most-favoured-nation treatment and for settling all accounts in freely convertible currency was signed in 1973. At the same time, another agreement—on setting up a Mixed Soviet-Mexican Commission for Trade Affairs—and a Protocol on the deliveries of Soviet machines and equipment to Mexico on favourable instalment-pay terms were signed. They made provisions, in particular, for Soviet foreign trade organisations to spend their earnings from machine and equipment sales on Mexican goods.

These documents put Soviet-Mexican trade on a solid contractual and legal foundation and led to its marked progress.

R. DAVILA: We are interested in the further growth of trade between our two countries. Both the Soviet Union and Mexico have enormous potentialities for that.

The USSR's economic potential is, indeed, inexhaustible. We know that whatever products the USA, Japan and Western European countries offer for sale are manufactured by your country as well. Many Soviet manufactures could give Western products a hard run on the Mexican market. We want equal and mutually profitable cooperation with all countries, and therefore we are prepared to encourage the development of Mexican-Soviet trade in every way.

It is only natural that while welcoming Soviet exports to Mexico we seek to increase our deliveries to the USSR. Mexican products such as coffee, cocoa beans, and so on are already known in the USSR. In 1981, we signed the first contract for the delivery of sulphur to the USSR. On the other hand, we have a big enough light industry whose products could find a market in the Soviet Union.

G. D. SHURINOV: Incidentally, we have just purchased our first large consignment of jeans from Mexico.

Senor Davila is quite right in saying that our trade has great reserves. But if it is to progress more rapidly, which is the wish of both sides, we have to make a closer study of each other's potentialities.

R. DAVILA: Indeed, many businessmen in our country have insufficient knowledge of Soviet products, although all of them agree that Soviet industry has attained a very high level of development. This situation can be rectified by a vigorous day-to-day information, publicity and advertising campaign.

Regular Soviet industrial exhibitions are very useful in this respect. Invariably a great success, they help make new business contacts. But, I repeat, we have to give more publicity to your goods on our market. There are businessmen in Mexico, I know, who do not buy Soviet machines solely for the reason that they fear the difficulties in spare parts supply which could be caused by the enormous distance between our two countries. There are no ground for such fears whatsoever, as evidenced by the problem-free operation of the Sidera tractors, assembled in Mexico from Soviet components and units metal-cutting lathes and textile machines.

Generally speaking, Soviet machines and equipment have found their way onto the Mexican market and gained a firm foothold there.

G.D. SHURINOV: I'd like to point out here that Mexican firms readily purchase Soviet metal-cutting machine tools. There are almost 4,000 here already. Quite recently, unique high-power presses from the Voronezh Heavy Engineering Plant have been mounted at a Mexican factory. Even while being installed there, they attracted the attention of many specialists, foreign ones included. Before long, such presses will be set up at another factory, in Monterrey.

These and other metalworking machines from the USSR are used for making all sorts of oil-field equipment components.

S.E.: Speaking of oil, both our countries are major oil producers and exporters. It seems we could get large-scale technical co-operation under way in this field, too.

R. DAVILA: This is a most promising field, indeed. The Soviet Union has accumulated enormous experience in this respect, and our oilmen are showing keen interest in Soviet equipment. The turbodrills purchased from MACHINOEXPORT by the Pemex state oil company have given a good account of themselves in the oilfields of Tabasco state which accounts for more than half of Mexico's oil output.

I feel sure the prospects of our co-operation in the petrochemical industry are also bright.

The development of a promising form of co-operation like industrial co-production is worthy of special note. Co-production brings good results—the Sidera tractor assembled in Mexico from Soviet components is a case in point. We regard this form of interaction with foreign firms as the quickest and the most effective way of building up and developing our own industry. Another example is the co-production of stocking frames practised since 1979 under an agreement between TECHMASHEXPORT and the Mexican firm Maquinaria Galez. These machines, as well as the STB shuttleless looms, have a good market here.

To sum up, the possibility of increasing the volume of Mexican-Soviet trade four- and even fivefold in the near future is beyond doubt. And we shall strive for this.



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